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09/538,038	03/29/2000	James Beasley	6063.500-US	6115

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NOVO NORDISK, INC.
PATENT DEPARTMENT
100 COLLEGE ROAD WEST
PRINCETON, NJ 08540

EXAMINER	
CELSA, BENNETT M	
ART UNIT	**PAPER NUMBER**
1639	

DATE MAILED: 03/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

JfL

Restriction / Election **Office Action Summary**	**Application No.** 09/538,038	**Applicant(s)** BEASLEY ET AL.	
	Examiner Bennett Celsa	**Art Unit** 1639	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *1* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-263* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-263* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-263 are currently pending.

Election/Restrictions

Restriction to one of the following groups of inventions is required under 35 U.S.C. 121:

Group 1. Claims 1-11 and 19-24, drawn to a method of "modulating" insulin receptor activity using a peptide comprising X1-X2-X3-X4-X5, classified in class 514, subclass 17.

Group 2. Claims 12-18, drawn to a method of modulating insulin receptor activity using a peptide comprising X1-X2-X3-X4-X5 ... X93-X94-X95-X96-X97, classified in class 514, subclass 15

Group 3. Claims 25-33, 44 (in part), 46(in part) and 47, drawn to a peptide comprising X1-X2-X3-X4-X5, classified in class 530, subclass 330.

Group 4. Claims 34-35, 44 (in part), 45, 46 (in part), drawn to peptide comprising FHENX1-X2-X3-X4-X5 , classified in class 530, subclass 328.

Group 5. Claims 36-41, drawn to peptide comprising X1-X2-X3-X4-X5 ... X93-X94-X95-X96-X97, classified in class 530, subclass 327.

Group 6. Claim 42, drawn to a peptide comprising N... X1-X2-X3-X4-X5 (Asn at "amino terminal"of X1-X5), classified in class 530, subclass 329.

Group 7. Claims 43, drawn to a peptide selected from the group listed in Fig.1-A through 1-O, classified in class 530, subclass 300.

Group 8. Claims 48-57, 63, 64, drawn to a method of "modulating" insulin receptor activity using a peptide comprising X6-X7-X8-X9-X10-X11-X12-X13, classified in class 514, subclass 16.

Group 9. Claims 58-62, drawn to a method of "modulating" insulin receptor activity using a peptide comprising X98-X99-X6-X7-X8-X9-X10-X11-X12-X13-X100, classified in class 514, subclass 15.

Group 10. Claims 65-77, 81-82 and 87, drawn to peptides comprising X6-X7-X8-X9-X10-X11-X12-X13, classified in class 530, subclass 328.

Group 11. Claims 78-80, drawn to peptides comprising X98-X99-X6-X7-X8-X9-X10-X11-X12-X13-X100, classified in class 530, subclass 327.

Groups 12-20. Claim 84, each group drawn to a peptide comprising one member of a Markush of eight different peptides classified in class 530, subclasses 327-330.

Group 21. Claims 85-86, drawn to a peptide comprising X115-X116-X117-X118 FY-X8-YF-X11-X12-L-X119-X120-X121-X122, classified in class 530, subclass 326.

Group 22. Claims 88-95, drawn to a method of binding to Site 1 of IR comprising contacting IR with a peptide comprising X14-X15-X16-X17-X18-X19-X20-X21, classified in class 435, subclass 7.2.

Group 23. Claims 96-97, drawn to a method of binding to Site 1 of IR comprising contacting IR with a peptide comprising X101-X102-X103...X14-X15-X16-X17-X18-X19-X20-X21, classified in class 435, subclass 7.2.

Group 24. Claims 98-100, drawn to a method of binding to Site 1 of IGF-1R comprising contacting IGF-1R with a peptide comprising X14-X15-X16-X17-X18-X19-X20-X21 , classified in class 436, subclass 501.

Group 25. Claims 101-111 and 114-115, drawn to a peptide comprising X14-X15-X16-X17-X18-X19-X20-X21, classified in class 530, subclass 328.

Group 26. Claims 112-113, drawn to a peptide comprising X101-X102-X103-X14-X15-X16-X17-X18-X19-X20-X21, classified in class 530, subclass 327.

Group 27. Claim 116-121, drawn to a method of binding to Site 2 of IR by contacting the receptor with a peptide comprising X22-X41, classified in class 435, subclass 7.2.

Group 28. Claim 122-127, drawn to a peptide comprising X22-X41, classified in class 530, subclass 326.

Group 29. Claim 128-133, drawn to a method of modulating insulin activity by contacting cells with a peptide comprising X42-X61, classified in class 435, subclass 7.2.

Group 30. Claims 134-138, drawn to a peptide comprising X42-X61, classified in class 530, subclass 324.

Group 31. Claim 139-146, drawn to a method of modulating insulin activity using a peptide comprising X62-X81, classified in class 435, subclass 7.21.

Group 32. Claims 147-156, drawn to a peptide comprising X52-X81, classified in class 530, subclass 324.

Group 33. Claim 157-165, drawn to a method of modulating insulin activity by administering a peptide comprising H-X82-X92 classified in class 514, subclass 15.

Group 34. Claims 166-174, drawn to a peptide comprising H-X82-X92, classified in class 530, subclass 327.

Group 35. Claims 175-184, drawn to a method of modulating insulin activity by administering a peptide comprising X104-X114, classified in class 514, subclass 2.

Group 36. Claims 185-186, drawn to a method of modulating insuling activity by administering a peptide comprising "an amino acid sequence selected from group listed in figure 8", classified in claims 514, subclass 2.

Group 37. Claims 187-196, drawn to a peptide comprising X104-X114, classified in class 530, subclass 327.

Group 38. Claims 83 and 197-198, drawn to a peptide comprising "an amino acid sequence selected from group listed (or consisting of) in Figures 2A-2P or in figure 8", classified in class 530, subclass 300.

Group 39. Claim 199, drawn to a method of providing insulin agonist activity comprising administering a peptide comprising DYKDLCQSWGVRIGWLAGLCPKK, classified in class 514, subclass 13.

Group 40, Claim 200, drawn to a method of modulating insulin activity by administering a peptide comprising a sequence selected from Fig. 9-11, classified in class 514, subclass 2.

Group 41, Claim 201, drawn to a peptide comprising DYKDLCQSWGVRIGWLAGLCPKK, classified in class 530, subclass 326.

Group 42, Claim 202, drawn to a peptide comprising a sequence selected from Fig. 9-11, classified in class 530, subclass 300.

Group 43, Claims 203-219, drawn to a peptide comprising two or more sequences (e.g. X1-X5,X6-X13, ... X104-X114) which bind IR (site 1 and/or site 2) bound by a peptide bond or linking peptide, classified in class 424, subclass 192.1.

Group 44-61, Claims 220-223, drawn to nucleic acid encoding an IR binding peptide (e.g. FYDWF .... WSDFYSYFQGL), classified in class 536, subclass 23.1.

Group 62, Claims 224-228, drawn to a kit comprising IGF-1 and peptide selected from Formulas 1-10 or Fig 9-11, classified in class 435, subclass 975.

Group 63, Claim 229, drawn to a kit comprising IR and a peptide selected from Formulas 1-10; Fig 9 or 11, classified in class 435, subclass 975.

Group 64, Claims 230-232, drawn to a pharmaceutical composition comprising a peptide which specifically binds IGF-1 (site 1) (e.g. comprising NFYDWFV or QMKDIFYSLLASLAA), classified in class 514, subclass 2.

Group 65, Claims 233-235, drawn to a pharmaceutical composition comprising a peptide which specifically binds IR receptor (site 1) (e.g. comprising FYDWF or FYSLLASL), classified in class 514, subclass 2.

Group 66, Claims 236 (in part) and 237, drawn to a gene therapy method of treating diabetes, classified in class 514, subclass 44.

Group 67, Claims 236 (in part) and 238, drawn to a method of treating diabetes by administering a peptide, classified in class 514, subclass 2.

Group 68, Claims 239 (in part) and 240, drawn to a gene therapy method of treating an IGF sensitive tumor, classified in class 514, subclass 44.

Group 69, Claims 239 (in part) and 241, drawn to a method of treating an IGFsensitive tumor administering an IGF-1R antagonist peptide, classified in class 514, subclass 2.

Group 70, Claim 242, drawn to a method of screening an IR binding compound using IR and a peptide from formulas 1-10 or Fig. 10-11, classified in class 435, subclass 7.1.

Group 71, Claims 243-246, drawn to screened peptides of various bioactivities, classified in class 530, subclass 300.

Group 72, Claim 247, drawn to a method of screening an IGF-1R binding compound using IGF-1R and a peptide from formulas 1-9 or Fig. 10, classified in class 435, subclass 7.1.

Group 73, Claims 248-251, drawn to screened peptides of various bioactivities, classified in class 530, subclass 300.

Group 74, Claims 252-253, drawn to a peptide comprising WX123GYX124WX125X126, classified in class 530, subclass 328.

Group 75 , Claim 254, drawn to a recombinant peptide library comprising peptides of Formula 1, classified in class 435, subclass 5.

Group 76 , Claim 255, drawn to a recombinant peptide library comprising peptides of Formula 2, classified in class 435, subclass 5.

Group 77 , Claim 256, drawn to a recombinant peptide library comprising peptides of Formula 3, classified in class 435, subclass 5.

Group 78 , Claim 257, drawn to a recombinant peptide library comprising peptides of Formula 4, classified in class 435, subclass 5.

Group 79 , Claim 258, drawn to a recombinant peptide library comprising peptides of Formula 5, classified in class 435, subclass 5.

Group 80 , Claim 259, drawn to a recombinant peptide library comprising peptides of Formula 6, classified in class 435, subclass 5.

Group 81 , Claim 260, drawn to a recombinant peptide library comprising peptides of Formula 7, classified in class 435, subclass 5.

Group 82, Claim 261, drawn to a recombinant peptide library comprising peptides of Formula 8, classified in class 435, subclass 5.

Group 83, Claim 262, drawn to a recombinant peptide library comprising peptides of Formula 9, classified in class 435, subclass 5.

Group 84, Claim 263, drawn to a recombinant peptide library comprising peptides of Formula 10, classified in class 435, subclass 5.

I. Compound (or Library of compounds) Inventions 3-7, 10-21, 25-26,28,30,32, 34,37-38, 41-65, 71 and 73-84 are directed to independent and/or patentably distinct compound due to the following differences:

a. compound properties (e.g. differences in type of effect (agonism v. antagonism) and intended target (e.g. insulin v. IGF receptors);

b. encompass peptides which differ in amino acid sequence and length, which possess different chemical/physical/biological properties which are capable of separate manufacture and/or use;

c. peptides do not share a common core structure (constant amino acids) that elicits a common utility (e.g. agonism/antagonism) and differ in orientation (e.g linked C:N or C:C).

d. administratively burdensome (e.g. search, examination etc.) to consider together including:

different and separately burdensome manual/computer sequence, bibliographic and classification searches in patent and literature databases; and

a reference against one invention would not necessarily be applicable against the other.

II. Method Inventions 1-2, 8-9, 22-24, 27, 31, 33, 35-36, 39-40, 66-70 and 72, are directed to independent and/or patentably distinct methods due to the following differences:

a. method objective (e.g. differences in type of effect (agonism v. antagonism) ;intended target (e.g. insulin v. IGF receptors) and/or treatment conditions (gene therapy v. pharmaceutical peptide delivery;

b. the use of peptides or DNA which differ in amino acid (or nucleotide) sequence and length, which possess different chemical/physical/biological properties which are capable of separate manufacture and/or use;

c. the use of peptides or DNA which lack a common core structure (constant amino acids or nucleotide structure) that elicits a common utility (e.g. agonism/antagonism) and differ in orientation.

d. administratively burdensome (e.g. search, examination etc.) to consider together including:

different and separately burdensome manual/computer sequence, bibliographic and classification searches in patent and literature databases; and

a reference against one invention would not necessarily be applicable against the other.

Additionally, screening library assay inventions are directed to independent and/or patentably distinct methods due to the following differences:

a. different method objective (e.g. insulin agonism v. antagonism);

b. library compound properties (e.g. differences in type of effect (agonism v. antagonism) and intended target (e.g. insulin v. IGF receptors);

c. library peptides differ in amino acid sequence and length, which possess different chemical/physical/biological properties which are capable of separate manufacture and/or use;

d. library peptides do not share a common core structure (constant amino acids) that elicits a common utility (e.g. agonism/antagonism) and differ in orientation (e.g linked C:N or C:C).

e. administratively burdensome (e.g. search, examination etc.) to consider together including:

different and separately burdensome manual/computer sequence, bibliographic and classification searches in patent and literature databases; and

a reference against one invention would not necessarily be applicable against the other.

Further, the cell administration inventions, the library screening assays and the treatments each directed to independent and/or patentably distinct methods due to the following differences:

a. method objective (e.g. differences in type of effect (agonism v. antagonism) and intended target (e.g. insulin v. IGF receptors);

b. the use of peptides which differ in amino acid sequence and length, which possess different chemical/physical/biological properties which are capable of separate manufacture and/or use;

c. the use of peptides which lack a common core structure (constant amino acids) that elicits a common utility (e.g. agonism/antagonism) and differ in orientation (e.g linked C:N or C:C).

d. administratively burdensome (e.g. search, examination etc.) to consider together including:

different and separately burdensome manual/computer sequence, bibliographic and classification searches in patent and literature databases; and

a reference against one invention would not necessarily be applicable against the other.

III. Inventions (3-7; 10-20; 25-26; 28; 30; 32;34; 37-38; 41-43) and (1, 2, 8, 9, 22-24, 27, 31, 33, 35-36, 39-40) are related as product and process of use. The inventions can

be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case:

1) the process for using the product as claimed can be practiced with another materially different product such as insulin, insulin-like growth factor or fragments thereof; and/or

(2) the product as claimed can be used in a materially different process of using that product e.g. as illustrated by the different methods of inventions (e.g. pharmaceutical) and/or use in affinity purification.

IV. Because these inventions are distinct for the reasons given above and

a. have acquired a separate status in the art as shown by their different classification;

b. require different and separate administrative burdens (e.g. examination; and sequence/bibliograph search burdens); and/or

c. have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

V. The examiner has required restriction between product and process claims.

> Where applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims that depend from or otherwise include all the limitations of the allowable product claim will be rejoined in accordance with the provisions of MPEP § 821.04.

Process claims that depend from or otherwise include all the limitations of the patentable product will be entered as a matter of right if the amendment is presented prior to final rejection or allowance, whichever is earlier. Amendments submitted after final rejection are governed by 37 CFR 1.116; amendments submitted after allowance are governed by 37 CFR 1.312.
In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103, and 112. Until an elected product claim is found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowed product claim will not be rejoined. See "Guidance on Treatment of Product and Process Claims in light of *In re Ochiai, In re Brouwer* and 35 U.S.C. § 103(b)," 1184 O.G. 86 (March 26, 1996). Additionally, in order to retain the right to rejoinder in accordance with the above policy, Applicant is advised that the process claims should be amended during prosecution either to maintain dependency on the product claims or to otherwise include the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.**

Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

VI. ***Further Restriction: ALL OF THE ABOVE GROUPS:***

ELECTION OF:

a. a "proper generic" core structure(s)" and

b. ultimate inventive species (e.g. a single peptide sequence) within the elected generic (or genera if the claims are drawn to 2 or more generics).

It is administratively burdensome (e.g. cost/time to the Examiner/STIC) to search (e.g. structure/bibliographic in patent/literature/structure databases) improper generics and unrelated peptide/nucleotide sequences due to differences in compound structure and/or properties; and/or where references applicable to one invention fails to anticipate or render obvious another; and/or where 112/1,2 paragraph issues vary from group to group.

The above-identified groups are drawn to peptides (or encoding nucleotides) comprising one or more patentably distinct formulas of compounds (e.g. formulas 1-10; i.e. X1-X5; X115-X122 etc.) which represent improper Markush groups since these compound formulas lack sufficient core (e.g. fixed) amino acids necessary to elicit a single common activity.

To be responsive, Applicant must elect a SINGLE PROPER GENERIC CORE (OR CORES, where necessary) structure.

WHERE claims require the election of more than one proper generic (e.g. see Gp 42 above), to be responsive applicant must make an election for each desired generic and must further indicate how these generics are linked; e.g. either directly by covalent bond; or indirectly by linker, with FURTHER election of a SPECIFIC PEPTIDE LINKING COMPOUND (e.g. a specific sequence).

In addition, the various inventions recited above read on patentably distinct Groups drawn to multiple SEQ ID Numbers (e.g. the specification discloses over 2500 different sequences to which the various claims are drawn reciting various biological

activities). The sequences are patentably distinct because they are unrelated sequences, and a further restriction is applied to each Group. Additionally, it is administratively (E.g. time/cost for STIC and Examiner) burdensome to search a large number of unrelated peptide sequences.

For an elected Group drawn to amino acid sequences, to be responsive, Applicants must further elect a single amino acid sequence WHICH IS CONSISTENT WITH THE ABOVE GENERIC CORE(S) STRUCTURE ELECTION (e.g. the elected species is found within the elected generic(s)).

For an elected Group drawn to nucleotide sequences, the Applicants must elect a single polynucleotide sequence (See MPEP 803.04).

MPEP 803.04 states:

> Nucleotide sequences encoding different proteins are structurally distinct chemical compounds and are unrelated to one another. These sequences are thus deemed to normally constitute independent and distinct inventions within the meaning of 35 U.S.C. 121. Absent evidence to the contrary, each such nucleotide sequence is presumed to represent an independent and distinct invention, subject to a restriction requirement pursuant to 35 U.S.C. 121 and 37 CFR 1.141 et seq. The examination of more than one sequence would now pose an undue burden on the Office.
>
> In addition to the specifically selected sequences, those sequences which are patentably indistinct from the selected sequences will also be examined, with a limit of *up to* 10 sequences See 1192 O.G. 68 (November 1996). Furthermore, nucleotide sequences encoding the same protein are not considered to be independent and distinct inventions and will continue to be examined together.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143) AND an indication of claims readable thereon.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Due to the complexity, telephonic election was not attempted.

Future Correspondences

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bennett Celsa whose telephone number is 571-272-0807. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang can be reached on 571-272-0811. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Bennett Celsa
Primary Examiner
Art Unit 1639

BC
February 17, 2005